WHAT IS CLAIMED IS:

1. A method of treating a substance with a glass-like polysaccharide, wherein said treating comprises placing said substance in contact with said glass-like polysaccharide, and agitating for a period of time to produce a modified substance.

2. The method of claim 1, wherein said glass-like polysaccharide is in the form of fragments ranging in size from between about 0.1 mm to about 100 mm.

3. The method of claim 1, wherein said treating results in the removal of liquid from said substance.

4. The method of claim 1, wherein said treating modifies the form or finish of said substance.

5. The method of claim 4, wherein said modifying the form or finish is selected from the group consisting of deburring, degrading, abrading, grinding, sanding, polishing, buffing, cleaning, degreasing and burnishing.

6. The method of claim 1, wherein said substance is brought into contact with said glass-like polysaccharide in an apparatus selected from the group consisting of a vibratory mill, a ball mill, an agitator mill, an attrition mill, a roller ball mill, a bead mill, a planetary mill, and a sand mill, a vibratory finisher, a vibratory bowl finisher, a vibratory tub finisher, a centrifugal finisher, a centrifugal disc finisher, a centrifugal barrel finisher, a spindle finishing machine, a drag finishing machine, a tumbler, a barrel tumbler, a burnisher, and a racetrack finisher.

7. The method of claim 1, wherein said substance is selected from the group consisting of a metal or metal alloy, a plastic, a composite material, a glass or glass-like material, a ceramic or ceramic alloy, a rubber, and a mineral.

8. The method of claim 7, wherein said metal is selected from the group consisting of steel, stainless steel, iron, nickel, nickel alloys, aluminum, aluminum alloys, copper, titanium, zinc, scandium, nickel, tungsten carbide, lead, gold, silver, platinum, tin, brass, bronze and any alloys thereof.

9. The method of claim 7, wherein said plastic is selected from the group consisting of polypropylene, polystyrene, polyvinylchloride (PVC), acrylonitrile butadiene styrene (ABS), cellulose, acrylic, polyester, polycarbonate, acetyl, nylon, polyethylene, flouropolymers, polyphenylene oxide, polysulfone, polyetheretherketone (PEEK), polyetherimide, polyamide-amide, polyimide, PBI, fiberglass and garolite.

10. The method of claim 7, wherein said composite material is selected from the group consisting of carbon fiber composites, kevlar fiber composites, boron fiber composites, and fiberglasses.

11. The method of claim 7, wherein said rubber is selected from the group consisting of latex, pure gum rubber, nitride, styrene-butadiene rubber, neoprene, epichlorohydrin, butyl, EPDM, hypalon, silicone rubber, polyurethane, santoprene, vinyl and viton.

12. The method of claim 7, wherein said glass is selected from the group consisting of borosilicate glass, silica glass, glass-ceramic, soda lime glass.

13. The method of claim 7, wherein said ceramic is selected from the group consisting of glass-mica ceramic, alumina bisque ceramic, boron-nitride ceramic, garolite-laminated ceramic, high alumina ceramic, zirconia ceramic, zirconium phosphate ceramic, alumina ceramic, silica ceramic, zirconium oxide ceramic, and silicon-nitride.

14. The method of claim 7, wherein said mineral is a precious or semiprecious stone.

15. A process for producing chemically cross-linked, polysaccharide fragments comprising the steps of:

(a) heating a homogeneous, aqueous mixture of dispersed polysaccharide molecules produced from starch and a chemical cross-linking agent to anneal the mixture whereby at normal ambient temperatures the mixture forms a solid product having a moisture content of between about 10 to about 70% by weight;

(b) reacting the chemical cross-linking agent with said polysaccharide molecules to produce intermolecular chemical cross-linkages between the polysaccharide molecules; and

(c) processing the solid product obtained thereby to form fragments having an apparent hardness of between about 1.0 moh and about 4.0 moh and sizes ranging between about 6.0 mm to about 100.0 mm.

16. A process for producing glass-like polysaccharide fragments comprising the steps of:

(a) providing an aqueous dispersion of polysaccharides produced from starch, said dispersion having an average amylose content ranging from between about 40% to about 90% by weight;

(b) heating said dispersion at a temperature and for a time sufficient to form a gel;

(c) subdividing and cooling the gel to form a glass-like solid material; and

(d) grinding the glass-like solid material to form glass-like polysaccharide fragments having an apparent hardness of between about 1.0 moh and about 4.0 moh, an average moisture content of at least about 5%, and sizes ranging between about 6.0 mm to about 100.0 mm.

17. The process according to claim 15, wherein step b) is carried out only after the mixture has formed into the solid product.

18. The process according to claim 15, wherein the starch is substantially unhydrolyzed.

19. The process according to claim 16, wherein the starch is substantially unhydrolyzed.

20. The process according to claim 15, wherein the starch has a dextrose equivalent ranging from about between 0 to 10.

21. The process according to claim 16, wherein the starch has a dextrose equivalent ranging from about between 0 to 10.

22. The process according to claim 15, wherein the starch has a dextrose equivalent ranging from about between 0 to 1.

23. The process according to claim 16, wherein the starch has a dextrose equivalent ranging from about between 0 to 1.

24. The process according to claim 15, wherein the starch is a corn starch or a wheat starch.

25. The process according to claim 16, wherein the starch is a corn starch or a wheat starch.

26. A product made by the process of claim 15.

27. A product made by the process of claim 16.

28. An isolated product comprising chemically cross-linked polysaccharide fragments or polysaccharide fragments having an average amylose content between about 45% and about

95% by weight, having a moisture content between about 5% and about 70% by weight, an apparent hardness between about 1.0 moh and about 4.0 moh, and fragment sizes ranging from between about 6.0 mm to about 100.0 mm.

29. The product according to claim 28, wherein said fragments comprise a starch having a dextrose equivalent ranging from about 0 to about 10.

30. The product according to claim 29, wherein said starch has a dextrose equivalent ranging from about 0 to about 1.

31. The product according to claim 28, wherein said starch is a corn starch or a wheat starch.

32. The product according to claim 28, further comprising other products for treating substances.

33. A method of treating a substance with a glass-like polysaccharide, wherein said treating comprises placing said substance in contact with said glass-like polysaccharide, and imparting motion to said substance being treated for a period of time to produce a modified substance.

34. The method of claim 33, wherein said glass-like polysaccharide is in the form of fragments ranging in size from between about 0.1 mm to about 100 mm.

35. The method of claim 33, wherein said treating results in the removal of liquid from said substance.

36. The method of claim 33, wherein said treating modifies the form or finish of said substance.

37. The method of claim 36, wherein said modifying the form or finish is selected from the group consisting of deburring, degrading, abrading, grinding, sanding, polishing, buffing, cleaning, degreasing and burnishing.

38. The method of claim 33, wherein said substance is brought into contact with said glass-like polysaccharide in an apparatus selected from the group consisting of a vibratory mill, a ball mill, an agitator mill, an attrition mill, a roller ball mill, a bead mill, a planetary mill, and a sand mill, a vibratory finisher, a vibratory bowl finisher, a vibratory tub finisher, a centrifugal finisher, a centrifugal disc finisher, a centrifugal barrel finisher, a spindle finishing machine, a drag finishing machine, a tumbler, a barrel tumbler, a burnisher, and a racetrack finisher.

39. The method of claim 33, wherein said substance is selected from the group consisting of a metal or metal alloy, a plastic, a composite material, a glass or glass-like material, a ceramic or ceramic alloy, a rubber, and a mineral.

40. The method of claim 39, wherein said metal is selected from the group consisting of steel, stainless steel, iron, nickel, nickel alloys, aluminum, aluminum alloys, copper, titanium, zinc, scandium, nickel, tungsten carbide, lead, gold, silver, platinum, tin, brass, bronze and any alloys thereof.

41. The method of claim 39, wherein said plastic is selected from the group consisting of polypropylene, polystyrene, polyvinylchloride (PVC), acrylonitrile butadiene styrene (ABS), cellulose, acrylic, polyester, polycarbonate, acetyl, nylon, polyethylene, flouropolymers, polyphenylene oxide, polysulfone, polyetheretherketone (PEEK), polyetherimide, polyamide-amide, polyimide, PBI, fiberglass and garolite.

42. The method of claim 39, wherein said composite material is selected from the group

consisting of carbon fiber composites, kevlar fiber composites, boron fiber composites, and fiberglasses.

43. The method of claim 39, wherein said rubber is selected from the group consisting of latex, pure gum rubber, nitride, styrene-butadiene rubber, neoprene, epichlorohydrin, butyl, EPDM, hypalon, silicone rubber, polyurethane, santoprene, vinyl and viton.

44. The method of claim 39, wherein said glass is selected from the group consisting of borosilicate glass, silica glass, glass-ceramic, soda lime glass.

45. The method of claim 39, wherein said ceramic is selected from the group consisting of glass-mica ceramic, alumina bisque ceramic, boron-nitride ceramic, garolite-laminated ceramic, high alumina ceramic, zirconia ceramic, zirconium phosphate ceramic, alumina ceramic, silica ceramic, zirconium oxide ceramic, and silicon-nitride.

46. The method of claim 39, wherein said mineral is a precious or semiprecious stone.